

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 November 2005 (17.11.2005)

PCT

(10) International Publication Number
WO 2005/109565 A1

(51) International Patent Classification⁷: **H01P 1/205**, 1/20

(21) International Application Number:
PCT/FI2005/050140

(22) International Filing Date: 29 April 2005 (29.04.2005)

(25) Filing Language: Finnish

(26) Publication Language: English

(30) Priority Data:
20040672 12 May 2004 (12.05.2004) FI

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

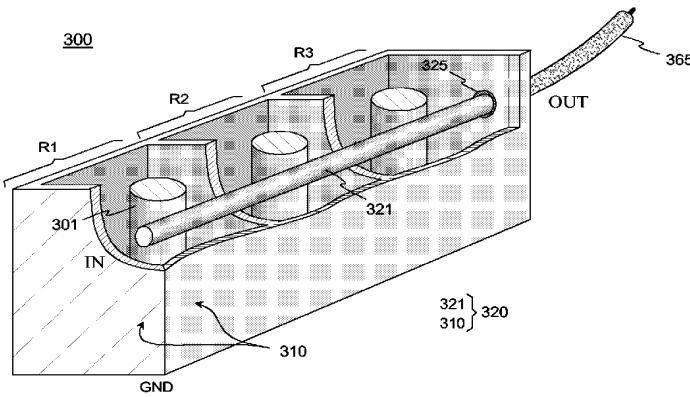
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,

[Continued on next page]

(54) Title: BAND STOP FILTER



(57) **Abstract:** A band stop filter (300) implemented by coaxial resonators for filtering antenna signals particularly in base stations of mobile communication networks. The starting point is a structure with a transmitting line and coaxial resonators electromagnetically coupled parallel with it, the natural frequencies of which resonators differ from each other slightly. The resonators (R1, R2, R3) form a unitary conductive resonator housing (310), the inner space of which has been divided into resonator cavities by conductive partition walls. In the invention, the center conductor (321) of the transmitting line is placed inside the resonator housing so that it runs across all the resonator cavities, and the housing functions as the outer conductor of the transmitting line at the same time. The resonator cavities are thus a part of the cavity of the transmitting line. When an electromagnetic field of the same frequency as the natural frequency of a resonator occurs in the transmitting line, the resonator in question starts to oscillate, causing the field to reflect back towards the feeding source. The strength of the resonance and the width of its range of influence at the same time are set, for example, by choosing the distance between the inner conductor (301) of the resonator and the center conductor (321) of the transmitting line suitably. The number of structural parts and metallic junctions in the band stop filter are relatively small. Therefore less intermodulation occurs in the filter than in corresponding known filters. Other functional units can also be easily integrated into the filter structure.

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ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,

HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations

Published:

— with international search report

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